

**STAFF REPORT  
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02/04/19  
PRC 8097.1  
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**CERTIFICATION OF A FINAL SUBSEQUENT ENVIRONMENTAL IMPACT REPORT  
AND AMENDMENT OF LEASE AUTHORIZING  
THE WHEELER NORTH REEF EXPANSION PROJECT**

**LESSEE:**

Southern California Edison Company

**AREA, LAND TYPE, AND LOCATION:**

862 acres, more or less, of sovereign land in the Pacific Ocean, San Clemente, Orange County.

**AUTHORIZED USE:**

Continued maintenance of an artificial kelp reef, known as the Wheeler North Reef.

**LEASE TERM:**

37 years, beginning August 1, 1999.

**CONSIDERATION:**

Expected Annual Rent as follows: Year 1 – \$20,400; Years 2-6 – \$20,160; Year 7 – \$135,585; Years 8-10 – \$135,000. The annual rent is \$900 per acre and is calculated based upon the amount of acreage used during construction of Phase 1 and Phase 2, including a temporary use area used during construction. Lessee will perform surveys after construction of Phase 1 and Phase 2 to determine the actual acreage covered by the Lease. Lessee will also inform Lessor of the amount of acreage used during construction. Following year 10, the State reserves the right to fix a different rent periodically during the lease term, as provided in the lease.

**PROPOSED AMENDMENT:**

Amend the Lease to:

1. Authorize construction and maintenance of the Wheeler North Reef Expansion Project.

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2. Revise the annual rental from \$156,960 per year to \$346,500 per year, effective August 1, 2019.
3. Replace the existing Section 3, Legal Description, with Exhibit A, Land Description, attached to this Staff Report.
4. Replace the existing Exhibit A, Site Map, with Exhibit B, Site and Location Map, attached to this Staff Report; (for reference purposes only).
5. ~~Lessee is required to adhere to the recommendations included in the 2018 Monitoring Report.~~

All other terms and conditions of the lease shall remain in effect without amendment.

**STAFF ANALYSIS AND RECOMMENDATION:**

**Authority:**

Public Resources Code sections 6005, 6216 and 6301, 6501.1 and 6503; California Code of Regulations, title 2, sections 2000 and 2003.

**Background:**

In 1991 the California Coastal Commission adopted permit conditions for the San Onofre Nuclear Generating Station (SCE) Units 2 and 3 that required a package of mitigation to compensate for loss of marine environment. The California Coastal Commission amended the permit conditions in May 1997, to require Southern California Edison Company (SCE) to create an artificial kelp reef in the Pacific Ocean, approximately 0.6 mile offshore of the city of San Clemente, Orange County, as mitigation for the SONGS Units 2 and 3's impacts on the San Onofre kelp reef. As specified in Special Condition C of Coastal Development Permit 6-81-330-A (the CDP), the artificial reef would be built in two phases. During Phase 1, SCE would build a small experimental reef that would be monitored for 5 years. Phase 2 would use the information gained from this monitoring to design and construct the full-sized mitigation reef. The CDP also set performance standards that the artificial reef must meet each year to guarantee it performs similarly to a natural kelp reef. The artificial reef is required to meet these standards for the same number of years that the SONGS Units 2 and 3 operate, including decommissioning activities. On June 7, 2013, SCE ceased permanent operation of Units 2 & 3 and started preparations for decommissioning.

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The SONGS Decommissioning Plan has three components:

- (1) Activities related to a separate, already-approved project by the California Coastal Commission in 2001 (CDP No. E-00-014) and in 2015 (CDP No. 9-15-0228) allowing for the installation, operation, and maintenance of the Independent Spent Fuel Storage Installation currently located on-site, from 2015 through 2035 (Approved Independent Spent Fuel Storage Installation [ISFSI] Expansion, Operation, and Maintenance). This portion of the project is located onshore in an upland area on federal property outside of the Commission's jurisdiction. The storage of spent nuclear fuel (SNF) and operational and radiological aspects of the ISFSI in the coastal zone fall under the exclusive jurisdiction of the U.S. Nuclear Regulatory Commission.
- (2) Activities associated with dismantlement of above-grade structures, meeting NRC requirements for unrestricted use, and disposition of the offshore conduits, from 2019 through 2028.
- (3) Additional activities projected to begin in approximately 2035, including transfer of SNF to off-site storage, additional substructure removal, and final site restoration.

On June 14, 1999, the Commission authorized a General Lease – Non-Income Producing Use to SCE for Phase 1 of the artificial reef project ([Item 73, June 14, 1999](#)). On November 21, 2006, the Commission authorized an amendment of lease to authorize the Phase 2 reef ([Item C37, November 21, 2006](#)). After post-construction surveys showed that the reef was 174.4 acres, not the originally estimated 150 acres, the Commission authorized an amendment of lease to include the actual as-built size of the artificial reef and revise the rent ([Item C45, April 6, 2011](#)). The lease expires on July 31, 2036.

Under the CDP, the reef must meet a series of performance standards each year, for "full operating life" as defined in the permit, including past and future years of operation of SONGS Units 2 and 3, including the decommissioning period to the extent there are continuing discharges. The performance standards include:

1. At least 42 percent, and no more than 86 percent, of the reef must be covered by hard substrate (i.e., covered by rocks instead of sand), and at least 90 percent of the exposed hard

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substrate must be available for attachment by reef biota such as kelp.

2. The reef must sustain at least 150 acres of medium- to high-density kelp.
3. The standing stock of fish must be at least 28 tons.
4. The reef must not have invasive or undesirable species.
5. The reef must meet relative standards based on nearby reefs including similar fish diversity, density, and reproductive rates.

A team of independent scientists has monitored the reef since 2009. Between 2009 and 2016, Wheeler North Reef failed to meet the fish standing stock requirement each year, and for 2 years did not sustain enough kelp. The reef has met every other standard to date.

SCE has not received any mitigation credit for Wheeler North Reef because of its failure to meet the standards. Analyses of monitoring data collected from Wheeler North Reef show that additional reef acreage is needed for the Wheeler North Reef to meet all of its performance standards, hence the need for the proposed project.

**Project Description:**

SCE is proposing to expand the existing 174.4-acre Wheeler North Reef to approximately 385 acres to meet the CDP performance standards. The proposed reef expansion project is known as the Wheeler North Reef Expansion Project (Project), and would be Phase 3 of the artificial reef required by the CDP.

The proposed Project would expand the existing reef by placing up to 175,000 tons of quarried rock in 23 designated areas adjacent to the existing reef. Due to high demand for rock, the quarry rock would be purchased from a combination of the Pebbly Beach and Empire Landing quarries on Santa Catalina Island, California and La Piedra Quarry in Ensenada, Mexico. The rocks used for the proposed Project would range from approximately 0.25 to 0.5 ton and would be clean and free of contaminants.

The proposed Project includes transporting about 4,000 tons of quarry rock per trip from the quarries to the Project site using one or two barges towed by a tugboat, and the transport of empty supply barges back to the

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quarries for additional rock. Rock would be placed on the seafloor in water depths of about 38 to 49 feet in the Project area using a front-end loader on the supply barge. The front-end loader would push quarry rock off the supply barge in defined polygon areas.

The quarry rock would be positioned using proprietary software that uses coordinate data from two differential Global Positioning System (GPS) systems and a differential corrections signal broadcast by the U.S. Coast Guard from Point Loma, California. The software would triangulate the data to show the edge of the supply barge in relation to the polygon boundary. The system would be confirmed at the beginning of construction with a standard land survey system, and daily calibration would maintain consistent performance to ensure that rocks are deposited in the correct location.

Construction is expected to occur over about 130 days between May 1 and October 1, 2019, to avoid lobster-fishing season and to take advantage of the calm weather conditions that are typical of that time of year.

### **California Environmental Quality Act:**

#### Subsequent Environmental Impact Report (EIR):

The Commission is the lead agency for the project pursuant to the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). The Commission certified a Program EIR in 1999 that analyzed potential significant impacts associated with construction and maintenance of Phases 1 and 2 of the artificial reef (State Clearinghouse No. 98031027). Program EIRs (as opposed to project EIRs) are intended to provide analysis that is more general and anticipates future project refinement and review. Related future projects can potentially “tier” their future environmental assessment using the original Program EIR.

Under the State CEQA Guidelines (§ 15162, subd. (a)(1)), when an EIR has been certified or negative declaration adopted for a project, no subsequent or supplemental EIR shall be prepared for that project unless several conditions exist based on substantial evidence in the light of the whole record, including:

*“Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a*

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*substantial increase in the severity of previously identified significant effects...*

Preparation of a Subsequent EIR for the proposed reef expansion is appropriate for the following reasons:

- The increase in reef size, new lease area, and time since the 1999 Program EIR was completed constitute substantial changes in circumstances under which the project is undertaken. These changes require major revisions to the previous EIR due to the potential for new significant environmental effects.
- The 1999 Program EIR retains “relevance” in light of the proposed Project and continues to have “informational value” consistent with the California Supreme Court’s ruling in *Friends of the College of San Mateo Gardens v. San Mateo Community College District* (2016) 1 Cal.5th 937. The Subsequent EIR incorporates by reference information from the 1999 Program EIR where appropriate and provides new descriptions and analyses for resources where baseline conditions or Project impacts may be substantially different than what the Commission analyzed in the 1999 Program EIR.

Therefore, pursuant to the Commission’s delegation of authority and the State CEQA Guidelines (Cal. Code Regs., tit. 14, § 15025, subd. (a)), staff prepared a Subsequent EIR to evaluate the potential significant impacts associated with the Project (CSLC EIR No. 685, State Clearinghouse No. 1998031027).

For key resource area sections, such as Biological Resources (Marine), this Subsequent EIR incorporates previously published information by referencing relevant portions of the 1999 Program EIR and building upon that document. This approach is intended to facilitate understanding of the Project and its impacts, and to eliminate the need for frequent reader referral to the prior Program EIR that evaluated the Phase 1 and Phase 2 reef construction. The Subsequent EIR directs readers to relevant sections of the 1999 Program EIR for resource areas that would experience roughly the same impacts as described in the 1999 Program EIR and for which substantial new analysis was not warranted.

The Subsequent EIR was prepared and circulated for public review pursuant to the provisions of CEQA for a 45-day public review period from November 13, 2018, to December 28, 2018. Staff received 11 comment

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letters from nine reviewers: three from state agencies, one from an organization, one from the Applicant, and six from individuals (one individual sent three separate comment letters). Five verbal comments were offered at the public hearing held in Dana Point on December 5, 2018. The following is a summary of some primary areas of concern raised during the public comment period along with responses. Part II of the Final EIR provides complete responses to all comments received on the Draft EIR. The Final Subsequent EIR was released and made available on January 18, 2019 (see: <http://www.slc.ca.gov/Info/CEQA/WheelerNorthReef.html>).

- Comment: The Project is expensive, and SCE will pass the cost on to the ratepayers.

Response: Staff acknowledges the concern – the Project is estimated to cost over \$20 million. Expanding the Wheeler North Reef is necessary to mitigate for the destruction of natural kelp reefs associated with the operation of SONGS. The CDP required the artificial reef to mitigate natural kelp reef losses. But monitoring has concluded the artificial reef was built too small to meet the CDP mitigation requirements. If the Project is not implemented, some of the lost natural resources will not be sufficiently mitigated.

- Comment: A high-relief reef would increase fish production and improve fishing opportunities more effectively than the proposed low-relief design.

Response: The alternative of a compound reef including high- and low-relief segments was described in the SEIR and was eliminated from consideration as inconsistent with the Project's goals. The Coastal Commission required the Wheeler North Reef to mitigate for impacts to the San Onofre kelp reef, which is a low-relief reef. The CDP also requires Wheeler North Reef to have medium to high kelp densities, and these densities are not supported by high-relief reefs. Additionally, high-relief reefs require much more quarry rock. Transportation of this rock would substantially increase the Project's environmental impacts to air quality and increase greenhouse gas emissions.

- Comment: The existing reef has impacted sea urchin harvesting grounds inshore by affecting sand accretion, and the reef expansion will cause further impacts.

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Response: Monitors of the existing reef report that they generally do not see significant differences in accretion between the offshore, middle, and inshore areas of the reef. The area landward of the existing Wheeler North Reef is a dynamic area because it is in shallow water. Natural changes in these areas are due to the dynamic movement of the sediment rather than the presence of Wheeler North Reef. The Project is not expected to impact the inshore urchin harvesting grounds.

The Subsequent EIR contains an analysis of potential effects on commercial fishing and concludes that the presence of the reef would not result in significant loss of fishing grounds or other significant effects to commercial fishing, including to commercial urchin diving.

- Comment: The Project could impact surf breaks and surfing conditions near the Project site.

Response: The reef would be placed in more than 40 feet of water, and the hard substrate would extend no more than 3 feet above the seafloor. The 1999 Program EIR concluded that the experimental and mitigation reefs, and the resulting kelp forests, would not affect swell waves. Since the existing reef's construction, no impacts to swell waves or surfing conditions have been observed. Because the project area and reef design for the Project is very similar to the existing artificial reef, the expanded reef is not expected to impact surf conditions.

- Comment: The reef monitoring or the performance standards are flawed.

Response: The proposed Project does not include a change in the monitoring methods. These methods are reviewed on a regular basis by California Coastal Commission and their effectiveness considered in annual reports prepared by the monitoring scientists. The Coastal Commission can revise the monitoring plan based on these reports.

Summary of Environmental Impacts:

The Subsequent EIR identifies potential significant impacts of the Project on the following environmental issue areas:



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- Biological Resources (Marine)
- Aesthetics
- Air Quality
- Cultural and Paleontological Resources
- Cultural Resources – Tribal
- Geology and Coastal Processes
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Mineral Resources
- Noise
- Ocean Water Quality
- Public Services
- Recreation
- Transportation (Marine)

With the implementation of mitigation measures and Applicant Proposed Measures specified in the Final Subsequent EIR, all of the impacts would be reduced to Less than Significant. The Mitigation Monitoring Program developed by staff with stakeholder input is attached as Exhibit C.

### **Tribal Cultural Resources:**

In keeping with its Tribal coordination practices and pursuant to Assembly Bill (AB) 52 and the Commission's Tribal Consultation Policy, staff notified and invited comments from the 29 tribal contacts and 20 California Native American Tribes identified by the Native American Heritage Commission (NAHC). While no Tribes with geographical or cultural affiliation in Orange County have submitted written requests to the Commission for notification of CEQA projects pursuant to AB 52, staff contacted all Tribes identified by the NAHC to ensure the Tribes had an opportunity to provide meaningful input on the proposed Project.

The NAHC also noted that the Acjachemen Nation of Juaneño Band of Mission Indians should be contacted for more information about potential sites within the area of potential effect for the Project. Staff reached out to the Acjachemen Nation to further identify their concerns and determine their preferred approach to further site investigations. The Acjachemen Nation raised concerns because their oral history and Tribal files contain references to village sites within the Project area, which had been inundated millennia ago through post-glacial sea-level rise.

The Acjachemen Nation requested an archaeological reconnaissance survey of portions of the project area to investigate the possibility of Tribal cultural resources. Using side scan sonar images, Steven Villa of NDNA Monitoring and Consulting LLC (authorized by Acjachemen Nation Chairwoman Romero), and Dudek marine archaeologist William Burns, MSC, RPA, identified ten Project area polygons which could hold bedrock milling sites, rock shelters, or other possible Tribal cultural resources.

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William Burns and Acjachemen Nation representative Gabriel Lopez dove within these areas to visually investigate the possibility of Tribal cultural resources.

No physical Tribal cultural resources were identified during the dives. However, the Acjachemen Nation identified an area of cultural sensitivity within the Project area. As a result, SCE eliminated the culturally sensitive area of concern from the Project and identified additional contingency areas seaward of the original Project area. These contingency areas allowed SCE to keep the originally proposed Project reef size while avoiding areas identified by the Acjachemen Nation as being of concern for Tribal cultural resources.

### **Climate Change:**

Project construction emissions would not exceed the South Coast Air Quality Management District air quality or greenhouse gas (GHG) thresholds of significance and would not have a significant impact on the environment or substantially contribute to a global GHG emissions. Additionally, Project construction would not conflict with applicable plans, polices, or regulations adopted for the purposes of reducing GHG emissions. Therefore, the Project would not result in significant impacts to GHG emissions.

The NOAA Digital Coast Sea-Level Rise Viewer models sea-level rise projections and shows that coastal communities in the Project vicinity will be strongly affected by sea-level rise (SLR) and its associated hazards. As the proposed Project is offshore, the depth of water covering the reef will increase as sea levels rise and there will be a reduction in the availability of light for photosynthesis. Additionally, SLR could incrementally contribute to the loss of beaches, contribute to coastal erosion, and increase sedimentation and turbidity within the littoral cell, which would also result in a net loss of light availability. Finally, higher water levels combined with warmer water temperatures and more frequent storms could combine for greater wave force reaching the Project area. Section 8.2 of the Subsequent EIR provides an in-depth discussion of climate change and SLR.

### **Public Trust and State's Best Interests Analysis:**

The proposed Project would benefit Public Trust lands and resources by expanding the existing Wheeler North Reef, which is expected to improve aquatic resources and functions by providing suitable habitat substrate and shelter for kelp, fish, and other marine organisms on sovereign land.

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The Wheeler North Reef Expansion would help mitigate for SONGS' destruction of natural resources in nearby sovereign land.

Any project-related impacts to existing Public Trust resources, such as restricting public access, would be for a very short duration. The proposed reef expansion would not affect waterborne recreation. The reef would be too deep to affect wave breaks for surfing and would not negatively impact boating. Neither is the project expected to negatively affect recreational or commercial fishing.

For these reasons, staff believes the use of sovereign land for the Project is consistent with the common law Public Trust Doctrine.

**Conclusion:**

For all the reasons above, staff believes the proposed lease amendment authorizing the Project will not substantially interfere with Public Trust needs at this location, at this time, and for the foreseeable term of the proposed amendment of lease; is consistent with the common law Public Trust Doctrine; and is in the best interests of the State.

**OTHER PERTINENT INFORMATION:**

1. This action is consistent with Strategy 1.1 of the Commission's Strategic Plan to deliver the highest levels of public health and safety in the protection, preservation, and responsible economic use of the lands and resources under the Commission's jurisdiction.
2. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (Cal. Code Regs., tit. 14, § 15025), Staff has prepared a Subsequent EIR identified as CSLC EIR No. 685, State Clearinghouse No. 1998031027. The Subsequent EIR was prepared and circulated for public review pursuant to the provisions of CEQA.
3. A Mitigation Monitoring Program has been prepared in conformance with the provisions of CEQA (Pub. Resources Code, § 21081.6), and is contained in the attached Exhibit C.
4. Findings made in conformance with the State CEQA Guidelines (Cal. Code Regs., tit. 14, § 15091) are contained in the attached Exhibit D.
5. The proposed Project involves lands identified as possessing significant environmental values within the Commission's Significant Lands Inventory, pursuant to Public Resources Code section 6370 et seq. The Project area is located in the Significant Lands Inventory as parcel

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numbers 30-062-000 and 30-062-200, which include the tide lands of the Pacific Ocean lying below the ordinary high-water mark for the entire Orange County coastline (30-062-000) and from the San Diego County boundary line to the south extending north to the Dana Point (30-062-200). The subject lands are classified in use category Class B, which authorizes limited use (30-062-200), and Class C, which authorizes multiple use (30-062-000).

The parcels were identified as having significant environmental values regarding biological resources (endangered species, marine biotic community, large kelp beds, fishery and wildlife support, migratory bird feeding and resting areas), and recreational activities (swimming, fishing, surfing, diving, boating). Although the Project would result in temporary impacts to these values during construction of the reef, the long-term impact of increasing kelp habitat would be beneficial and consistent with the environmental values and use.

Based upon staff's review of the Significant Lands Inventory and through the CEQA analysis provided in the Subsequent EIR, the Project will not significantly affect those lands and is consistent with the use classification.

**FURTHER APPROVALS REQUIRED:**

U.S. Army Corps of Engineers, Los Angeles District  
Regional Water Quality Control Board, San Diego Region  
California Coastal Commission  
California Department of Fish and Wildlife

**EXHIBITS:**

- A. Land Description
- B. Site and Location Map
- C. Mitigation Monitoring Program
- D. Findings

**RECOMMENDED ACTION:**

It is recommended that the Commission:

**CEQA FINDING:**

Certify that the Subsequent EIR, CSLC EIR No. 685, State Clearinghouse No. 1998031027, was prepared for this project pursuant to the provisions of CEQA, that the Commission has reviewed and considered the information contained therein, and in the comments received in response thereto, and that the Subsequent EIR reflects the Commission's independent judgment and analysis.

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Adopt the Mitigation Monitoring Program, as contained in the attached Exhibit C.

Adopt the Findings, made in conformance with California Code of Regulations, title 14, section 15091, as contained in the attached Exhibit D.

**PUBLIC TRUST AND STATE'S BEST INTERESTS:**

Find that the proposed lease will not substantially impair the public rights to navigation and fishing or substantially interfere with the Public Trust needs and values at this location, at this time, and for the foreseeable term of the lease; is consistent with the common law Public Trust Doctrine; and is in the best interests of the State.

**SIGNIFICANT LANDS INVENTORY FINDING:**

Find that this activity is consistent with the use classification designated by the Commission for the land pursuant to Public Resources Code section 6370 et seq.

**AUTHORIZATION:**

Authorize an amendment to Lease No. PRC 8097.1 to (1) authorize construction and maintenance of the Wheeler North Reef Expansion Project, subject to construction requirements contained in the amendment; (2) revise the annual rental from \$156,960 per year to \$346,500 per year, effective August 1, 2019; (3) replace the existing Section 3, Legal Description with the attached Exhibit A, Land Description; (4) replace the existing Exhibit A, Site Map, with the attached Exhibit B, Site and Location Map; ~~(5) require the Lessee to adhere to the recommendations included in the 2018 Monitoring Report.~~

**EXHIBIT A**

**PRC 8097.1**

**LAND DESCRIPTION**

A parcel of submerged land situate in the Pacific Ocean, lying adjacent to the city of San Clemente, County of Orange, State of California and more particularly described as follows:

COMMENCING at USC&GS Monument "Airway 5" (PID DX4090, 1991.35), from which USN Camp Joseph H. Pendleton Boundary Monument "Camp Pendleton Boundary Mark USMC" (PID DX4088, 1991.35) bears N 50° 17' 26" W 100.69 feet; thence N 83° 54' 05" W 2628.57 feet to a point in the Pacific Ocean, said point also being the POINT OF BEGINNING; thence along the following eight (8) courses:

1. N 33° 14' 29" W 13,000 feet;
2. N 43° 16' 24" W 8000 feet;
3. N 55° 32' 55" W 5700 feet;
4. N 74° 10' 10" W 4700 feet;
5. S 26° 09' 32" W 3700 feet;
6. S 58° 20' 23" E 12,300 feet;
7. S 38° 41' 22" E 17,114 feet;
8. N 49° 55' 51" E 3000 feet to the POINT OF BEGINNING.

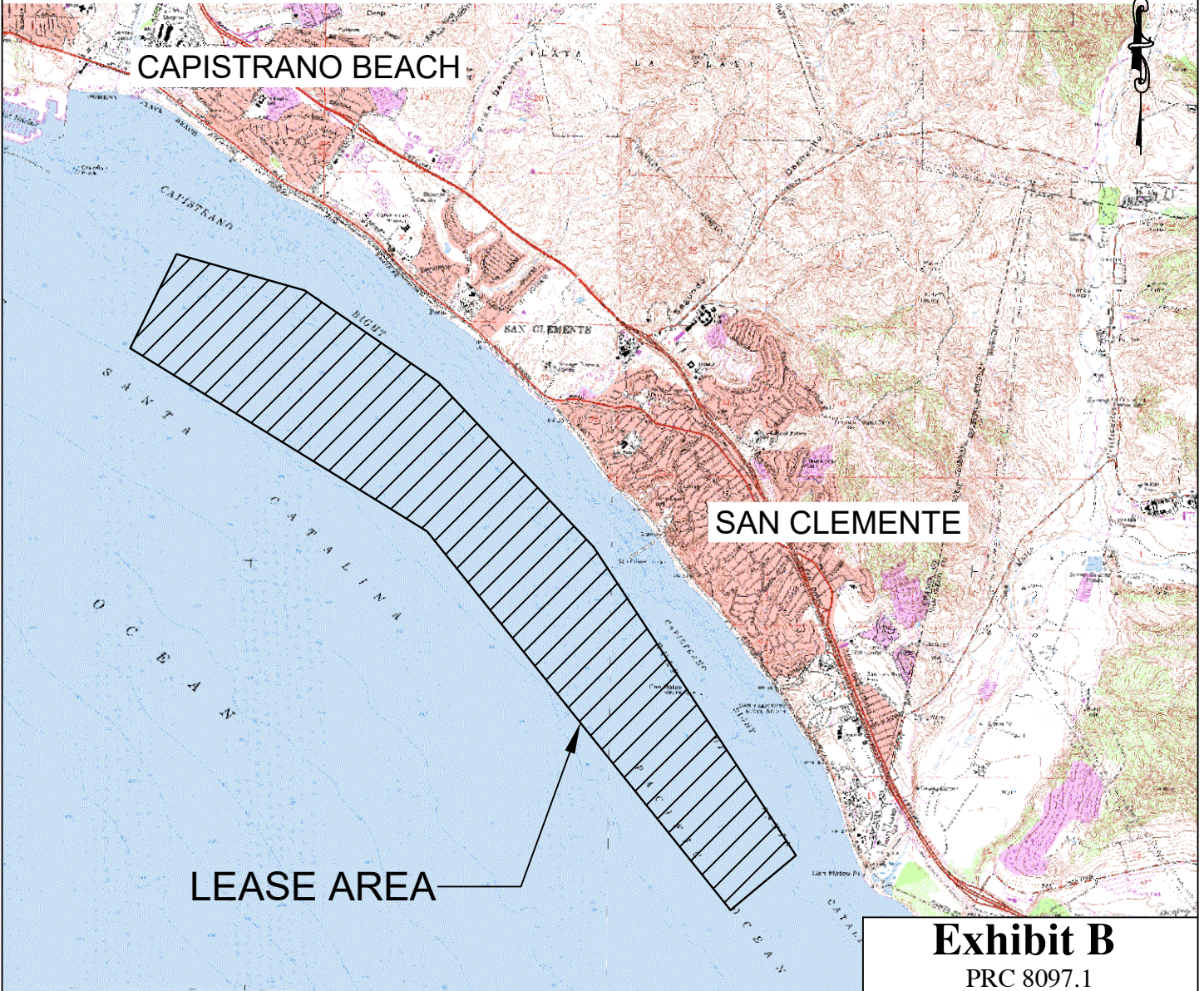
**END OF DESCRIPTION**

Prepared May 16, 2018 by the California State Lands Commission Boundary Unit.



NO SCALE

# SITE



CAPISTRANO BEACH

SAN CLEMENTE

LEASE AREA

ARTIFICIAL REEF

**Exhibit B**  
PRC 8097.1  
SOUTHERN CALIFORNIA  
EDISON COMPANY  
GENERAL LEASE -  
NON-INCOME PRODUCING  
ORANGE COUNTY



This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

**EXHIBIT C**  
**CALIFORNIA STATE LANDS COMMISSION**  
**MITIGATION MONITORING PROGRAM**

Construction and Management of an Artificial Reef in the Pacific Ocean near San Clemente, California: Wheeler North Reef Expansion Project  
(State Clearinghouse No.1998031027)

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The California State Lands Commission (Commission or CSLC) is the lead agency under the California Environmental Quality Act (CEQA) for the Construction and Management of an Artificial Reef in the Pacific Ocean near San Clemente, California: Wheeler North Reef Expansion Project (Project). In conjunction with approval of this Project, the Commission adopts this Mitigation Monitoring Program (MMP) for implementation of mitigation measures (MMs) for the Project to comply with Public Resources Code section 21081.6, subdivision (a) and State CEQA Guidelines sections 15091, subdivision (d) and 15097.

The Project authorizes Southern California Edison (SCE or Applicant) to expand the Wheeler North Reef in accordance with the terms and conditions of its existing CSLC Lease No. PRC 8097.

**MONITORING AUTHORITY**

The purpose of the MMP is to ensure that measures adopted to mitigate or avoid significant impacts are implemented. The MMP shall be a working guide to facilitate the implementation of the MMs and associated monitoring, compliance and reporting activities. Commission staff may delegate duties and responsibilities for monitoring to environmental monitors or consultants as deemed necessary, and some monitoring responsibilities may be assumed by responsible agencies, such as affected jurisdictions and cities. The number of construction monitors assigned to the Project will depend on the number of concurrent construction activities and their locations. Commission staff will ensure that appropriate agency reviews and approvals are obtained, that each person delegated any duties or responsibilities is qualified to monitor compliance, and that it is aware of and has approved any deviation from the MMP.

**ENFORCEMENT RESPONSIBILITY**

The Commission, as lead agency, is responsible for enforcing the procedures adopted for monitoring through the environmental monitor. Any assigned environmental monitor shall note problems with monitoring, notify appropriate agencies or individuals about any problems, and report the problems to Commission staff or its designee.

**MITIGATION COMPLIANCE RESPONSIBILITY**

The Commission is responsible for enforcing this MMP. The Project Applicant is responsible for the successful implementation of and compliance with the MMs identified in this MMP. This includes all field personnel and contractors working for the



Applicant. Standards for successful mitigation also are implicit in many MMs that include such requirements as obtaining permits or avoiding a specific impact entirely. Other MMs include detailed success criteria. Additional mitigation success thresholds may be established by applicable agencies with jurisdiction through the permit process and through the review and approval of specific plans for the implementation of MMs.

## **GENERAL MONITORING PROCEDURES**

### **Environmental Monitors**

Many of the monitoring procedures will be conducted prior to or during the construction phase of the Project. To ensure implementation and success of the MMs, an environmental monitor must be on site during all Project activities that have the potential to create significant environmental impacts or impacts for which mitigation is required. Along with the Commission staff, the environmental monitor(s) are responsible for:

- Ensuring that the Applicant has obtained all applicable agency reviews and approvals
- Coordinating with the Applicant to integrate the mitigation monitoring procedures during Project implementation
- Ensuring that the MMP is followed

### **General Reporting Procedures**

Site visits and specified monitoring procedures performed by other individuals will be reported to the environmental monitor. A monitoring record form will be submitted to the environmental monitor by the individual conducting the visit or procedure so that details of the visit can be recorded and progress tracked by the environmental monitor. A checklist will be developed and maintained by the environmental monitor to track all procedures required for each mitigation measure and to ensure that the timing specified for the procedures is adhered to. The environmental monitor will note any problems that may occur and take appropriate action to rectify the problems.

### **Public Access to Records**

The public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the Commission or its designee on request.

## **MITIGATION MONITORING TABLE**

This section presents the mitigation monitoring table (Table C-1) for each environmental discipline that requires MMs. Impacts that do not require mitigation are not included (see *Executive Summary* for summary description of all Project impacts). Each table lists the following information, by column:

- Impact (impact number, title, and impact class)
- Mitigation Measure (full text of the measure)
- Location (where the impact occurs and the mitigation measure should be applied)
- Monitoring/reporting action (the action to be taken by the monitor or lead agency)
- Effectiveness criteria (how the agency can know if the measure is effective)
- Responsible agency
- Timing (before, during, or after construction; during operation, etc.)

Applicant-Proposed Measures (APMs) are presented at the end of the table.

**Table C-1. Mitigation Monitoring Program**

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>Impact BIO-2: Introduction or Enhancement of Nonindigenous Species</b> Nonindigenous species could be introduced or enhanced as a result of the proposed Project (Less than Significant with Mitigation).</p>	<p><b>MM BIO-2: Prevent Import of Nonindigenous Species.</b> In order to control the import of non-native species to the Project location, the following requirements shall be implemented as part of the detailed Project planning. All Project vessels shall:</p> <ul style="list-style-type: none"> <li>• Originate from Oceanside Harbor, Dana Point Harbor, the Ports of Long Beach/Los Angeles, or San Diego Bay</li> <li>• Be continuously based out of Oceanside Harbor, Dana Point Harbor, the Ports of Long Beach/Los Angeles, or San Diego Bay since last dry docking</li> <li>• Have hulls with antifouling coatings</li> <li>• Remain at ports no longer than 5 days</li> </ul> <p>Underwater surfaces of barge vessels shall be subject to evaluation by California State Lands Commission (CSLC) Marine Invasive Species Program (MISP) staff, through a Risk Assessment process and pre-construction inspection prior to use for the construction. Pre-construction inspections shall include use of underwater remotely operated vehicles with cameras, or similarly detailed inspection methods, including</p>	<p>Project vessels</p>	<p>Monitor verification of compliance with measure</p>	<p>Implementation will limit spread of nonindigenous species</p>	<p>Contractor, CSLC</p>	<p>Project construction</p>

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	<p>but not limited to review of the vessel's dry dock and cleaning records, most recent application of antifouling hull coatings, review of Biofouling Removal and Hull Husbandry Reporting Forms, and any other measures to prevent the spread on non-native species. Should vessels fail to pass Risk Assessment or pre-construction inspection screening as determined by CSLC MISP, cleaning of vessels prior to construction may be required.</p> <p>Additionally, and regardless of vessel size, ballast water for all Project vessels must be managed consistent with CSLC ballast management regulations, and Biofouling Removal and Hull Husbandry Reporting Forms shall be submitted to CSLC MISP staff. Further, as part of the Project kickoff meeting, a qualified marine biologist, approved by CSLC staff, shall provide information to all Project personnel about the spread of non-native species in California waters and the programs (i.e., CSLC Ballast Water Management Program and Biofouling Removal and Hull Husbandry Reporting) that would be implemented to minimize this hazard.</p>					

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>Impact BIO-3: Disturbance or Injury to Marine Mammals and Turtles from Construction</b> Construction activities (including noise) could impact marine mammals and turtles (Less than Significant with Mitigation).</p>	<p><b>MM BIO-3: Marine Wildlife Monitoring Plan.</b> A Marine Wildlife Monitoring Plan (Plan) shall be prepared by a qualified marine mammal biologist and submitted to California State Lands Commission (CSLC) staff for review and approval 60 days prior to commencement of activities. The Plan is intended to reduce the chance of a significant impact to marine mammals and sea turtles during construction activities. It may also form the basis of a permit application to the relevant agencies (National Marine Fisheries Services and U.S. Fish and Wildlife Service). The Plan should include:</p> <ul style="list-style-type: none"> <li>• Determination of the exclusion zone for eliminating the risk of crushing as a result of rockfall.</li> <li>• Procedures for monitoring marine mammals and sea turtles and specifications for Marine Wildlife Observers (MWO) within the rockfall exclusion zone.</li> <li>• Methods for communicating with contractors to stop work if there is a risk that any marine mammals or sea turtles active in the area may move closer to the construction site and inside a designated exclusion zone.</li> <li>• Procedures for MWO monitoring of barge transport, if necessary.</li> <li>• Methods for communicating with</li> </ul>	<p>Project site, including barge route</p>	<p>CSLC to confirm receipt of satisfactory plan. Monitor to confirm implementation of plan.</p>	<p>Implementing MM will reduce the potential for impacts to marine mammals and sea turtles</p>	<p>Contractor, CSLC</p>	<p>Prior to starting Project construction activities and during all marine vessel use</p>

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	<p>the ship's captain if there is a risk of collision with a marine mammal or sea turtle.</p> <ul style="list-style-type: none"> <li>• Limitations that work occur only during daylight hours when visual monitoring of marine mammals and sea turtles can be conducted.</li> </ul>					
<p><b>Impact BIO-4: Accidental Spills or Vessel Grounding May Result in Habitat Degradation or Species Mortality</b> Boat and ship activity may result in accidental spills or the grounding of vessels, which could lead to habitat degradation or species mortality (Less than Significant with Mitigation).</p>	<p><b>MM BIO-4: Spill and Grounding Contingency Plan.</b> The Applicant shall prepare and submit for approval to California State Lands Commission staff at least 60 days prior to the commencement of construction activities a Spill and Grounding Plan that includes, at a minimum, the following features:</p> <ul style="list-style-type: none"> <li>• A list of key contacts in the event of an accidental spill that will include senior Project management.</li> <li>• Identification of potential pollutants used in the construction process. These are likely to include diesel fuel, lube oil, hydraulic oil, waste oil, and oil leaking from pipes on the vessels.</li> <li>• Detailed procedures for averting and responding to a spill of these pollutants.</li> <li>• Detailed procedures for addressing a vessel grounding scenario for both vessels underway and vessels that have broken free of moorings at the</li> </ul>	N/A	Review and approve Spill and Grounding Contingency Plan	Implementation of the approved plan will minimize effects of accidental spills and grounding	Contractor, CSLC	Prior to construction

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	construction site.					
<b>AIR QUALITY</b>						
<b>Impact AQ-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan</b> Project construction could conflict with the SCAQMD 2016 AQMP or SDAPCD 2016 RAQS as a result of Project-generated emissions (Less than Significant with Mitigation).	<b>MM AQ-1a: Nitrogen Oxides (NOX) Emission Reduction.</b> Prior to the commencement of any construction activities, Southern California Edison or its designee shall provide evidence to California State Lands Commission staff that tugboats used for the Project meet or exceed the Tier 3 emission standards, if such tugboats with the capabilities to construct the project are available. If Tier 3 compliant tugboats with the capabilities to construct the project are not available, Tier 2 compliant tugboats may be used and the difference in NOx emissions shall be offset through purchase of additional NOx emission offset credits.	Project site	Project monitor confirms that all equipment meets the emission standards, or CSLC confirm receipt of evidence of credit purchase for the difference in NOx emissions.	Implementing MM will reduce emissions from construction equipment and vehicles	Contractor, CSLC	Prior to construction
	<b>MM AQ-1b: Nitrogen Oxides (NOX) Emission Offset Credits.</b> At least 30 days prior to the commencement of any construction activities, Southern California Edison or its designee shall provide evidence to California State Lands Commission staff and the South Coast Air Quality Management District that NO <sub>x</sub> emission offset credits have been purchased to offset the Project's NO <sub>x</sub> emissions below the South Coast Air Quality Management District construction threshold for NO <sub>x</sub> .	N/A	CSLC confirms receipt of evidence of credit purchase.	Purchasing credits will offset the Project's unavoidable NOx emissions.	Contractor, CSLC, SCAQMD	Prior to construction

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	<p>in compliance with South Coast Air Quality Management District's <i>Revised CEQA Policy and Procedure in Allowing the Use of Emission Credits to Mitigate Significant Air Quality Impacts from Construction Phase</i> (as revised 2007). The Project's NOx emissions will be based on those calculated in the SEIR. At the discretion of the South Coast Air Quality Management District, at the end of each construction year Southern California Edison may reconcile the amount of credits purchased with the amount of actual Project emissions subject to review and approval by California State Lands Commission and South Coast Air Quality Management District staff, and receive NOx emission credits based on the excess credits paid. Actual emissions would be calculated at the end of a year's construction, based on documentation of hours of construction operations, number of barge trips, types of equipment used, and other factors.</p>					
<p><b>Impact AQ-2: Violation of Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation</b> Project construction</p>	<p>Implementation of <b>MM AQ-1a</b> and <b>MM AQ-1b</b></p>	<p>See specific MMs in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing</p>				



Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
could exceed the SCAQMD construction emission thresholds for VOC, NO <sub>x</sub> , CO, SO <sub>x</sub> , PM <sub>10</sub> , and PM <sub>2.5</sub> (Less than Significant with Mitigation).						
<p><b>Impact AQ-3: Result in a Cumulatively Considerable Net Increase of Any Criteria Air Pollutant for Which the Project Region is Nonattainment</b> Project construction could result in a cumulatively considerable net increase in NO<sub>x</sub> emissions (Less than Significant with Mitigation).</p>	Implementation of <b>MM AQ-1a</b> and <b>MM AQ-1b</b>		See specific MMs in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing			
<p><b>Impact AQ-4: Expose Sensitive Receptors to Substantial Pollutant Concentrations</b> Project construction could result in exposure of sensitive receptors to substantial pollutant concentrations</p>	Implementation of <b>MM AQ-1a</b> and <b>MM AQ-1b</b>		See specific MMs in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing			

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
(Less than Significant with Mitigation).						
<b>CULTURAL AND PALEONTOLOGICAL RESOURCES</b>						
<p><b>Impact CR-1: Cause a substantial adverse change in the significance of a historical or archeological resource</b>                      The Project could cause a substantial adverse change in the significance of a historical resource (Less than Significant with Mitigation).</p>	<p><b>MM CR-1a: Archaeological and Tribal Monitoring.</b> To ensure that impacts to archaeological and tribal cultural resources remain less than significant, the following will occur:</p> <ul style="list-style-type: none"> <li>• A tribal monitor that is culturally affiliated with the area may be present during Project activities. For safety reasons, the monitor would not be able to be in the water during rock placement. During the first week of rock placement, the Applicant will make arrangements so that the tribal monitor can, if desired, dive on the areas where rock has been placed to examine the area and the effects of rock placement.</li> <li>• The Applicant will conduct a post-reef expansion dive with interested tribes to re-assess the Project area and compare with data obtained from the eighteen reconnaissance survey dives; and,</li> <li>• The Applicant and CSLC will document the tribal consultation process and</li> </ul>	Project site	Completion of daily monitoring forms, submittal of weekly summary to CSLC staff.	Implementing MM will reduce the potential for impacts to archaeological resources and tribal resources.	Contractor, CSLC	Project construction

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	<p>present it as professional paper to benefit future submerged projects.</p>					
	<p><b>MM CR-1b: Unanticipated Cultural/Tribal Resources.</b> The Applicant shall prepare a Cultural Resources Management Plan (CRMP), subject to review and approval by CSLC. The CRMP shall be prepared in coordination with the CSLC and a California Native American tribe that is culturally affiliated to the Project site. The CRMP will include, at a minimum:</p> <ul style="list-style-type: none"> <li>• Specific discussion on the process for identifying unanticipated discoveries in a submerged context, including how unanticipated tribal cultural resources are identified during project activities, when the project area is not visible.</li> <li>• Specific procedures for handling, recording and treating unanticipated cultural or tribal cultural resources in the event they are found.</li> <li>• Specific procedures for keeping the location of any such finds confidential and what measures will be taken to ensure that the area is</li> </ul>	<p>Project site</p>	<p>Applicant notification of CSLC staff and other agencies, retention of monitor. Construction contracts and plans to include appropriate treatment of human remains notes.</p>	<p>Implementing MM will reduce the potential for impacts to archaeological resources and tribal resources.</p>	<p>Contractor, CSLC</p>	<p>Project construction</p>

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	<p>secured to minimize site disturbance and potential vandalism.</p> <ul style="list-style-type: none"> <li>• Discussion of the successful tribal cultural resource consultation process for future submerged project consultation efforts</li> </ul> <p>To facilitate proper identification and treatment of potential resources that may be discovered, the Applicant shall retain both an archaeologist (approved by the CSLC) and a monitor from a California Native American tribe that is culturally-affiliated to the Project site for coordination, monitoring, and notification purposes. The Applicant shall provide a minimum 5-day notice to the archaeologist and tribal monitor prior to all scheduled activities. In addition, should intact cultural or tribal cultural deposits be uncovered during Project implementation, CSLC staff, the archaeologist, and the tribal monitor shall be contacted as soon as possible, and in no event later than 24 hours, to allow them to evaluate the nature, extent, and significance of the discovery. Impacts to previously unknown significant Tribal cultural resources shall be avoided through preservation in place if feasible.</p>					

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>Impact CR-2: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature</b>                      The Project could directly or indirectly destroy a unique paleontological resource or unique geological feature (Less than Significant with Mitigation).</p>	<p><b>MM CR-2: Unanticipated Paleontological Resources.</b> The Applicant shall develop a Paleontological Resources Management Plan (PRMP), subject to review and approval by CSLC, which will include:</p> <ul style="list-style-type: none"> <li>• Specific discussion procedures for on the identification of unanticipated discoveries in a submerged context, including how unanticipated paleontological resources are identified during project activities, when the Project area is not visible. The procedures must reduce the likelihood of disturbing unanticipated paleontological resources or unique geologic resources to the extent feasible, considering the difficulty of observing the submerged Project area during rock placement and that the rocks are likely to cap and preserve paleontological resources in place.</li> <li>• Specific procedures for handling, recording and treating unanticipated paleontological resources in the event they are found. The procedures must include retaining a qualified paleontologist to evaluate the</li> </ul>	<p>Project site</p>	<p>Applicant retention of monitor. CSLC approval of plan, if needed. Construction contracts and plans to include appropriate treatment of paleontological resources notes.</p>	<p>Implementing MM will reduce the potential for impacts to paleontological resources.</p>	<p>Contractor, CSLC</p>	<p>Project construction</p>

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	nature and significance of any discovery.					
<p><b>Impact CR-3: Disturb any human remains, including those interred outside of dedicated cemeteries</b>                      The Project could result in disturbance of any human remains                      (Less than Significant with Mitigation).</p>	<p><b>MM CR-3: Appropriate Treatment of Human Remains.</b> In accordance with state law (Health &amp; Saf. Code, § 7050.5; Pub. Resources Code, § 5097.98), if human remains are found, all ground disturbing activities shall halt within 165 feet (50 meters) of the discovery. The County Coroner will be notified within 24 hours of the discovery. No further excavation or disturbance of the discovery or any nearby area reasonably suspected to overlie potential remains shall occur until the County Coroner has determined whether the remains are subject to his or her authority. The County Coroner must make this determination within 2 working days of notification of the discovery (pursuant to Health &amp; Saf. Code, § 7050.5 subd. (b)). If the County Coroner determines that the remains do not require an assessment of cause of death and that the remains are, or are believed to be Native American, the Coroner must notify the Native American Heritage Commission by telephone within 24 hours, which must in turn immediately notify those persons it believes to be the Most Likely Descendant (MLD) of the deceased</p>	Project site	Applicant notification of CSLC staff and other agencies, as directed in measure. Compliance with CSLC direction after consultation with MLD, if applicable. Construction contracts and plans to include appropriate treatment of human remains notes.	Implementing MM will reduce the potential for impacts to human remains.	Contractor, CSLC, County Coroner, NAHC	Project construction

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	Native American. The MLD shall complete its inspection and make recommendations within 48 hours of being granted access to the site. The MLD may recommend means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. California State Lands Commission staff will discuss and confer with the MLD regarding their recommendations (pursuant to Pub. Resources Code, § 5097.98 subds. (b) and (c)).					
<b>CULTURAL RESOURCES –TRIBAL</b>						
<b>TCR-1: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource</b> The Project could cause a substantial adverse change in the significance of a tribal cultural resource (Less than Significant with Mitigation).	Implementation of <b>MM CR-1a</b>	See specific MM in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing				
	Implementation of <b>MM CR-1b</b>	See specific MM in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing				
	Implementation of <b>MM CR-3</b>	See specific MM in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing				
<b>HAZARDS AND HAZARDOUS MATERIALS</b>						

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<p><b>Impact HAZ-1: Routine Transport, Use, or Disposal of Hazardous Materials</b> Construction of the expansion reef could create a hazard to the public or environment through the routine transport, use, or disposal of hazardous materials (Less than Significant with Mitigation).</p>	<p><b>MM HAZ-1a: Spill Prevention and Response Plan.</b> At least 60 days prior to commencement of construction, a Spill Prevention and Response Plan for all Project vessels shall be prepared by Southern California Edison or its contractor and submitted to California State Lands Commission (CSLC) staff for review and approval. The plan shall include at a minimum the following elements:</p> <ul style="list-style-type: none"> <li>• A list of all fuels and hazardous materials that will be used or might be used during construction, along with material safety data sheets for each material</li> <li>• Specific protocols for monitoring and minimizing the use of fuel and hazardous materials during offshore construction Project operations, including best management practices that will be implemented to ensure minimal impacts to the environment</li> <li>• An estimate of a reasonable worst-case release of fuel or other hazardous materials at the offshore construction Project site or into coastal waters resulting from the construction activities</li> <li>• A list of all spill prevention and response equipment that will be</li> </ul>	<p>N/A</p>	<p>Review and approve Spill Prevention and Response Plan</p>	<p>Implementation of the approved plan will minimize effects of accidental spills</p>	<p>Contractor, CSLC</p>	<p>Prior to construction</p>



Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
	<p>maintained on the vessels performing the construction activities</p> <ul style="list-style-type: none"> <li>• The designation of the on-site person with responsibility for implementing the plan</li> <li>• A detailed response and clean-up plan in the event of a spill or accidental discharge or release of fuel or hazardous materials</li> <li>• A telephone contact list of all regulatory and trustee agencies, including CSLC and California Coastal Commission staffs, having authority over the development or Project site and its resources to be notified in the event of a spill or material release.</li> </ul>					
	<p><b>MM HAZ-1b: Prepare for Inclement Weather Condition.</b> Southern California Edison (SCE) or its contractor shall tie down or provide secondary containment for any deck equipment that may discharge contaminants to minimize the potential for unanticipated release of pollutants due to inclement weather or rough sea conditions. In addition, SCE or its contractor shall monitor weather conditions and tsunami warnings and cease work if it they determine that existing or forecast sea states or weather conditions would create unsafe working conditions for personnel or equipment.</p>	Project site	Monitor to confirm appropriate procedures followed in event of inclement weather.	Appropriate preparations will minimize likelihood of spills or unsafe conditions.	Contractor, CSLC	Project construction

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<b>Impact HAZ-2: Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment</b> Construction of the expansion reef could create a hazard to the public or environment through the release of hazardous material into the environment during accidents or adverse weather conditions (Less than Significant with Mitigation).	Implementation of <b>MM HAZ-1a</b>	See specific MM in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing				
	Implementation of <b>MM HAZ-1b</b>	See specific MM in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing				
<b>OCEAN WATER QUALITY</b>						
<b>OWQ-1: Impair Marine Water Quality</b> Temporary and localized impacts to ocean water quality could occur as a result of construction related discharges, mismanagement of materials, or accidental spills (Less than Significant	<b>MM OWQ-1: Compliance with Vessel General Permit.</b> Vessel discharges must comply with California State Lands Commission requirements for ballast water discharges and hull fouling to control and prevent the introduction of non-indigenous species. Vessel discharges must not result in violations of water quality objectives in the Ocean Plan. Vessels subject to the federal National Pollutant Discharge Elimination System Vessel	Project site	Monitor to confirm appropriate procedures followed related to vessel discharges	Appropriate preparations will minimize impactful discharges	Contractor, CSLC	Project construction

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
with Mitigation).	General Permit (VGP) must follow the best management practices for graywater as required in the VGP, including the use of only those cleaning agents (e.g., soaps and detergents) that are phosphate-free, non-toxic, and non-bioaccumulative.					
	Implementation of <b>MM HAZ-1a</b>	See specific MM in MMP for details on Location, Monitoring/Reporting, Action, Effectiveness Criteria, Responsible Agency, and Timing				
<b>PUBLIC SERVICES</b>						
<b>Impact PUB-1: Need for Emergency Response Services during Construction of the Artificial Reef</b> Construction and monitoring of the expansion reef could have a short-term impact on emergency response services (Less than Significant with Mitigation)	<b>MM PUB-1. Notification of Harbor Patrol.</b> The Orange County Harbor Patrol Marine Operations Bureau shall be notified when construction plans/schedules for the artificial reef are finalized. The Orange County Harbor Patrol Marine Operations Bureau shall also be given notification 2 weeks prior to the start of construction activities for both the experimental and mitigation reefs.	Orange County Harbor Patrol Marine Operations Bureau	Project monitor to confirm notification of Harbor Patrol	Implementing MM will ensure effective coordination and response	Contractor and CSLC	Prior to Project construction
<b>APPLICANT-PROPOSED MEASURES</b>						
<b>APM-1. Anchoring Plan.</b> The Applicant shall prepare an Anchoring Plan to reduce impacts sensitive marine areas. <ul style="list-style-type: none"> <li>Anchors should be designed to minimize drag on the seabed. Each anchor should be located on the ocean floor. The cable to the barge would travel via a foam filled can (surge-can) to lift the anchor chains off the seafloor.</li> <li>Anchors should be placed on areas of seabed less than 30 percent hard substrate.</li> </ul>	Project site	CSLC to review and approve plan, monitor to verify anchoring is consistent with plan.	Implementation will reduce impacts to seafloor communities	Contractor, CSLC	Project construction	

Impact (Class)	Mitigation Measure (MMs)	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
<ul style="list-style-type: none"> <li>All anchoring hardware moves would be conducted with ocean-capable tugboats with sufficient capacity to remove anchors from the seafloor to minimize drag damage. Anchors should be checked periodically to ensure movement has not occurred.</li> </ul>						
<p><b>APM-2. Forecast Notification.</b> Based on reputable weather forecasts, 24 hours before forecasts indicate conditions that would generate ground swells (waves) greater than 5 feet, all construction vessels would be withdrawn to a safe location. A safe location could include a nearby area where vessels can be anchored safely, deeper waters, or Long Beach Harbor.</p>		Project site	Monitor to confirm appropriate procedures followed after forecast	Appropriate preparations will minimize likelihood of spills or unsafe conditions.	Contractor, CSLC	Project construction
<p><b>APM-3: Local Notice to Mariners.</b> A Local Notice to Mariners will be published with the U.S. Coast Guard (USCG) Waterways Branch prior to Project construction to ensure that other vessels in the area, as well as the USCG and area harbor personnel, would be advised of the locations of the vessels and the approximate dates and duration of the construction. A similar notice shall be posted at several locations at Dana Point Harbor, including providing copies to the Sheriff’s Harbor Patrol, charter boat businesses, and dive shops. Temporary signs should also be posted at recreational sites, such as the San Clemente Pier and the mouth of San Mateo Creek, to inform recreational users about the Project.</p>		Area harbors, vessel routes, and recreation areas	Project monitor to confirm notification to area harbors and USCG	Implementing MM will ensure effective coordination and response	Contractor, CSLC	Prior to Project construction

# EXHIBIT D – Construction and Management of an Artificial Reef in the Pacific Ocean near San Clemente, California: Wheeler North Reef Expansion Project

## CALIFORNIA STATE LANDS COMMISSION STATEMENT OF FINDINGS

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### 1.0 INTRODUCTION

The California State Lands Commission (Commission or CSLC), acting as a lead agency under the California Environmental Quality Act (CEQA), makes these Findings to comply with CEQA as part of its discretionary approval to authorize implementation of the proposed Construction and Management of an Artificial Reef in the Pacific Ocean near San Clemente, California: Wheeler North Reef Expansion Project (Project). The Commission is making these Findings pursuant to Public Resources Code section 21081 and the State CEQA Guidelines (Cal. Code Regs., tit. 14, § 15091, subd. (a)),<sup>1</sup> which states in part:

*No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale of each finding.*

The Commission has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306.) All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

The Commission is the lead agency for the Project under CEQA. The Commission analyzed the environmental impacts associated with the Project in a Final Subsequent Environmental Impact Report (SEIR) (State Clearinghouse [SCH] No. 1998031027; CSLC EIR Number: 685).<sup>2</sup> Pursuant to CEQA Guidelines Section 15091, this document contains Findings of Fact for each significant environmental effect identified in the Final SEIR.

#### Project Description

In May 1997 the California Coastal Commission (CCC) adopted permit conditions that required Southern California Edison Company (SCE) to create an artificial kelp reef in the Pacific Ocean, approximately 0.6 mile offshore of the city of San Clemente, Orange

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<sup>1</sup> CEQA is codified in Public Resources Code section 21000 et seq. The State CEQA Guidelines are found in California Code of Regulations, title 14, section 15000 et seq.

<sup>2</sup> The Final SEIR was published in January 2019 and is available on the CSLC website at: <http://www.slc.ca.gov/Info/CEQA/WheelerNorthReef.html>.

County, as mitigation for the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3's impacts on the San Onofre kelp reef. Under the CDP, the reef must meet a series of performance standards each year, for a period equal to the operating life of SONGS. A team of independent scientists has monitored the reef since 2009. Between 2009 and 2016, Wheeler North Reef failed to meet the fish standing stock requirement each year, and for 2 years did not sustain enough kelp. Analyses of monitoring data collected from Wheeler North Reef show that additional reef acreage is needed for the Wheeler North Reef to meet all of its performance standards.

SCE is proposing to expand the existing 174.4-acre Wheeler North Reef to approximately 385 acres to meet the CDP performance standards. The proposed Project would expand the existing reef by placing up to 175,000 tons of quarried rock in 23 designated areas adjacent to the existing reef. Due to high demand for suitable rock, the quarry rock would be purchased from a combination of quarries on Santa Catalina Island, California and Ensenada, Mexico and transported to the site using one or two barges towed by a tugboat.

Rock would be placed on the seafloor in defined polygon areas, in water depths of about 38 to 49 feet in the Project area using a front-end loader to push rock off the supply barge. The quarry rock would be positioned in each area using proprietary software that uses coordinate data from two differential Global Positioning System (GPS) systems and a differential corrections signal broadcast by the U.S. Coast Guard (USCG) from Point Loma, California. The software would triangulate the data to show the edge of the supply barge in relation to the polygon boundary to allow accurate rock placement.

Construction is expected to occur over about 130 days between May 1 and October 1, 2019, to avoid lobster-fishing season and to take advantage of the calm weather conditions that are typical at that time of year.

## **2.0 ADMINISTRATIVE RECORD OF PROCEEDINGS**

These Findings are based on the information and analysis contained in the SEIR for the Project, as well as information provided by the Commission and gathered through the public involvement process, all of which is contained in the administrative record. References cited in these Findings can be found in the Final SEIR, Section 9.3, References Cited. The Division of Environmental Planning and Management of the California State Lands Commission is the custodian of the record of proceedings upon which its decision is based. The administrative record is located in the Sacramento office of the California State Lands Commission, 100 Howe Avenue, Suite 100-South, Sacramento, California 95825.

## **3.0 FINDINGS**

Findings are required by each "public agency" that approves a project for which an EIR has been certified that identifies one or more significant environmental impacts (Pub. Resources Code, § 21081; State CEQA Guidelines, § 15091.). These Findings, as a

result, are made to comply with the mandate that for each significant effect identified in the SEIR, the Commission adopt one or more of the following, as appropriate.

- 1) Changes or alterations have been required in, or incorporated into, the Project that avoid or substantially lessen the significant environmental effect as identified in the Final SEIR.
- 2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the Commission. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
- 3) Specific economic, legal, social, technological or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final SEIR.

These Findings are also made to comply with the requirement that each finding by the Commission be supported by substantial evidence in the administrative record of proceedings and accompanied by a brief explanation of the rationale for each finding (State CEQA Guidelines, § 15091, subds. (a) and (b)). To that end, these Findings provide the written, specific reasons, and identify the substantial evidence, supporting the Commission's decision under CEQA to approve the Project.

A discussion of supporting facts follows each Finding.

- Whenever Finding (1) occurs, the mitigation measures that lessen the significant environmental impact are identified in the facts supporting the Finding.
- Whenever Finding (2) occurs, the agencies with jurisdiction are specified. These agencies, within their respective spheres of influence, have the responsibility to adopt, implement, and enforce the mitigation discussed.
- Wherever Finding (3) is made, the Commission has determined that, even after implementation of all feasible mitigation measures and consideration of feasible alternatives, the identified impact will exceed the significance criteria set forth in the EIR. Furthermore, to the extent that potentially feasible measures have been alleged or proposed, the Findings explain why certain economic, legal, social, technological or other considerations render such possibilities infeasible. The significant and unavoidable impacts requiring Finding (3) are identified in the Final SEIR, discussed in the Responses to Comments, and explained below. Having done everything it can to avoid and substantially lessen these effects consistent with its legal authority and CEQA, the Commission finds in these instances that overriding economic, legal, social, and other benefits of the approved Project outweigh the resulting significant and unavoidable impacts. The Statement of Overriding Considerations adopted as part of this exhibit applies to all such unavoidable impacts as required by CEQA (Pub. Resources Code, § 21081, subd. (b); State CEQA Guidelines, §§ 15092 and 15093).

All environmental impacts of the Project identified in the SEIR are listed below; the

significance of each impact is classified as follows.

Definition	Findings Required
<b>Significant and Unavoidable (SU).</b> Significant adverse impact that remains significant after mitigation	Yes*
<b>Less than Significant with Mitigation (LTSM).</b> Significant adverse impact that can be eliminated or reduced below an issue’s significance criteria	Yes
<b>Less than Significant (LTS).</b> Adverse impact that does not meet or exceed the identified significance criteria	No
<b>No Impact (NI)</b>	No

\* There were no Significant and Unavoidable impacts associated with this Project; therefore, no Findings for such impacts are provided in this Statement of Findings.

### A. SUMMARY OF FINDINGS

Based on public scoping, the proposed Project will have No Impact on the following environmental issue areas:

- Agricultural Resources and Forestry Resources
- Biological Resources (Terrestrial)
- Hydrology and Water Quality (Onshore)
- Land Use and Planning
- Population and Housing
- Transportation/Traffic (Onshore)
- Utilities and Service Systems
- Energy

The SEIR subsequently identified the following impacts as Less Than Significant:

- Aesthetics
- Geology and Coastal Processes
- Greenhouse Gas Emissions
- Mineral Resources
- Noise
- Recreation
- Transportation (Marine)

For the remaining potentially significant impacts, the Findings set forth below are:

- Organized by significant impacts within the following SEIR issue areas
  - Biological Resources (Marine) (BIO)
  - Air Quality (AQ)
  - Cultural and Paleontological Resources (CR)
  - Cultural Resources – Tribal (TCR)
  - Hazards and Hazardous Materials (HAZ)
  - Ocean Water Quality (OWQ)



- Public Services (PUB)
- Numbered in accordance with the impact and mitigation numbers identified in the Mitigation Monitoring Program (MMP) in the SEIR (see Section 7 of the SEIR) (Findings may not be numbered sequentially, since Findings are not required when impacts are Less than Significant or there is No Impact)
- Followed by an explanation of the rationale for each Finding

## B. POTENTIALLY SIGNIFICANT IMPACTS

In certifying the SEIR and approving the Project, the Commission imposes various mitigation measures for Project-related significant effects on the environment as conditions of Project approval and concluded that Project-related impacts would be substantially lessened with implementation of these APMs and mitigation measures. Impacts determined to be Less Than Significant with Mitigation are shown in Table 1.

In certifying the EIR and approving the Project, the Commission also concluded that with the integration of all feasible mitigation, none of the potentially significant impacts will remain significant and unavoidable, and therefore none of the potentially significant impacts in the SEIR will require Finding (3). As a result, the Commission will **not** need to adopt a Statement of Overriding Considerations to support its approval of the Project.

**Table 1 Significant Impacts by Issue Area**

Environmental Issue Area	Impact Nos.
	LTSM
Biological Resources (Marine) BIO	BIO-2, BIO-3, BIO-4
Air Quality (AQ)	AQ-1, AQ-2, AQ-3
Cultural and Paleontological Resources (CR)	CR-1, CR-2, CR-3
Cultural Resources – Tribal (TCR)	TCR-1
Hazards and Hazardous Materials (HAZ)	HAZ-1, HAZ-2
Ocean Water Quality (OWQ)	OWQ-1
Public Services (PUB)	PUB-1

## C. IMPACTS REDUCED TO LESS-THAN-SIGNIFICANT LEVELS WITH MITIGATION (LTSM)

The impacts identified below were determined in the Final SEIR to be potentially significant absent mitigation; after application of mitigation, however, the impacts were determined to be less than significant. For the full text of each MM please refer to Exhibit C, Attachment C-1.

## 1. BIOLOGICAL RESOURCES (MARINE)

### CEQA FINDING NO. BIO-2

Impact: **Impact BIO-2. Introduction or Enhancement of Non-Native Species.**  
Non-native species could be introduced or enhanced as a result of the proposed Project.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

### FACTS SUPPORTING THE FINDING(S)

Vessel activity would increase in the area during Project construction. Barge trips are anticipated to increase slightly between ports and harbors from Los Angeles to Mexico. Increased vessel traffic can increase the introduction and spread of non-native species to the existing Wheeler North Reef or other marine environments, which can result in major changes to the native community or ecosystem. Organisms affected can include economically or ecologically important species and changes can be permanent.

Ports and harbors and their adjacent areas are typically most vulnerable to non-native species, as the bulk of marine traffic is concentrated at these sites. This may also apply to the jetties and other structures at quarry sites. If non-native species are present at these locations, they could be transferred to other locations by vessels. However, transfer is highly unlikely if the vessels are not expected to remain within the harbor for a sufficient length of time (less than 5 days) for non-native species to become established on the vessel.

Additionally, ballast water discharge and recharge are strictly controlled within major harbors for vessels; therefore, ballast water is an unlikely vector for non-native species transfer from a major harbor to the proposed Project site. However, activities proposed as part of the Project have the potential to result in the introduction or enhancement of non-native species.

Implementation of **MM BIO-2** would reduce the impact associated with non-native species to a less-than-significant level by reducing the potential for introduction or enhancement of invasive non-native or nuisance species during construction. By ensuring Project vessels harbor a minimum of invasive species and follow the Commission's Ballast Water Management Program and Biofouling Removal and Hull Husbandry Reporting, the measure would reduce the potential for adverse effects on marine species or marine habitat by nonindigenous species.

### **MM BIO-2: Prevent Import of Nonindigenous Species**

**LEVEL OF SIGNIFICANCE AFTER MITIGATION.** With the mitigation described above, this impact is reduced to a less-than-significant level.

**CEQA FINDING NO. BIO-3**

**Impact:** **Impact BIO-3. Disturbance or Injury to Marine Mammals and Turtles from Construction.** Construction activities (including noise) could impact marine mammals and turtles.

**Finding(s):** (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

Both marine mammals and sea turtles could be significantly impacted either by being struck or crushed by falling rocks, disturbed as a result of noise generated, or struck by a ship during the transportation of barges and other vessels associated with Project construction.

Implementation of **MM BIO-3** would reduce this impact to a less-than-significant level by reducing the potential impacts to marine mammals and sea turtles. The MM would reduce the potential disturbance or injury to marine mammals and turtles by establishing an exclusion zone around construction activities and stopping construction activities if marine mammals or turtles enter that zone.

**MM BIO-3: Wildlife Monitoring Plan**

**LEVEL OF SIGNIFICANCE AFTER MITIGATION.** With the mitigation listed above, this impact is reduced to a less-than-significant level.

**CEQA FINDING NO. BIO-4**

**Impact:** **BIO-4. Accidental Spills or Vessel Grounding May Result in Habitat Degradation or Species Mortality.** Boat and ship activity may result in accidental spills or the grounding of vessels, which could lead to habitat degradation or species mortality.

**Finding(s):** (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

The increase in boat and ship activity associated with Project construction would result in an increase in the risk of oil and fuel spills. This could occur from fuel or hydraulic leaks from vessels or equipment on vessels or barges. Some refueling of the Project equipment, such as the derrick barge and loader, would occur on the barge while it is anchored at the Project site, which could result in a spill. There is also a risk of spill from vessels transiting from the Project site to quarries, ports, and other vessel facilities. As the oil would tend to stay on the surface, intertidal and shallow subtidal habitats and associated biological communities would be at greatest risk. Effects on subtidal communities would be less apparent, but kelp that forms canopies at or near the

surface would be especially vulnerable, as would seabirds, fish, marine mammals, and sea turtles in the upper water column and surface waters. Toxic components of the spill could spread to marine habitats and resources by ocean currents or through the food web, potentially bioaccumulating and affecting higher trophic level organisms such as fish, lobster and crab, marine mammals, and seabirds. Several of these are state- or federally listed species, and their death owing to an oil spill would constitute “take” defined under the California Endangered Species Act and Federal Endangered Species Act.

Implementation of **MM BIO-4** would reduce this potential impact to a less-than-significant level by requiring implementation of a spill and grounding contingency plan. The plan would establish procedures for averting and responding to spills and vessel groundings, ensuring that spills are minimized and, if they do occur, would be responded to before causing habitat degradation or species mortality.

**MM BIO-4: Spill and Grounding Contingency Plan**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**2. AIR QUALITY**

**CEQA FINDING NO. AQ-1**

Impact: **AQ-1. Conflict with or Obstruct Implementation of the Applicable Air Quality Plan.** Project construction could conflict with the South Coast Air Quality Management District’s (SCAQMD) 2016 Air Quality Management Plan or San Diego Air Pollution Control District’s (SDAPCD) 2016 Regional Air Quality Standards as a result of Project-generated emissions.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

The Project site is located in the Pacific Ocean within the San Diego Air Basin. Activity within the San Diego Air Basin includes transient marine vessel transports that do not remain in a specific place for an extended time. Accordingly, no local San Diego Association of Government’s plan of growth projections applies to marine vessel travel and, therefore, the Project does not conflict with underlying land use assumptions. In addition, the Project would not result in population or employment growth. As such, the Project would not conflict with the SDAPCD 2016 Regional Air Quality Standards, and this impact would be less than significant.

Regarding Consistency Criterion No. 2 of the SCAQMD CEQA Air Quality Handbook, implementation of the Project would not exceed the demographic growth forecasts in the South Coast Association of Governments (SCAG) 2016 Regional Transportation

Plan/Sustainable Communities Strategy (RTP/SCS); therefore, the Project would be consistent with the SCAQMD 2016 Air Quality Management Plan (AQMP), which based future emission estimates on the SCAG 2016 RTP/SCS. Thus, the Project would not conflict with Consistency Criterion No. 2. However, regarding Consistency Criterion No. 1 of the SCAQMD CEQA Air Quality Handbook, the Project could result in an increase in the frequency and severity of existing air quality violations associated with oxides of nitrogen (NO<sub>x</sub>) emissions generated during Project construction and could, therefore, conflict with Consistency Criterion No. 1. Based on these considerations, impacts related to the Project's potential to conflict with or obstruct implementation of the SCAQMD 2016 AQMP could be potentially significant.

Implementation of **MM AQ-1a** and **MM AQ-1b** would reduce this potential impact to less than significant. The MMs would reduce impacts from Project-generated construction NO<sub>x</sub> emissions within the SCAG so that the Project would not conflict with or obstruct the implementation of the SCQAMD 2016 AQMP. MM AQ-1a reduces NO<sub>x</sub> emissions by requiring tugboats to meet Tier 3 emission standards, if possible. MM AQ-1b reduces impacts from NO<sub>x</sub> emission by requiring the purchase of NO<sub>x</sub> offset credits to offset emissions that exceed the SCAQMD's NO<sub>x</sub> construction threshold. These mitigation measures are listed below.

**MM AQ-1a: Nitrogen Oxides (NO<sub>x</sub>) Emission Reduction**

**MM AQ-1b: Nitrogen Oxides (NO<sub>x</sub>) Emission Offset Credits**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**CEQA FINDING NO. AQ-2**

Impact: **AQ-2. Violation of Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation.** Project construction could exceed the SCAQMD construction emission thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

Project construction would result in the temporary addition of pollutants to the local airshed caused by on-site sources (i.e., off-road construction equipment and marine vessel maneuvering and hoteling) and off-site sources (i.e., land worker vehicle trips and marine vessel transport). Because Project-generated construction emissions in 2019 would exceed the SCAQMD NO<sub>x</sub> threshold and the SDAPCD NO<sub>x</sub> threshold, mitigation to reduce NO<sub>x</sub> emissions is required to reduce Project construction air quality impacts. Implementation of **MM AQ-1a** and **MM AQ-1b** would reduce Project-generated construction NO<sub>x</sub> emissions and associated impacts. With mitigation, Project-generated

emissions would not exceed the SCAQMD's or the SDAPCD's mass daily thresholds for NO<sub>x</sub>. MM AQ-1a reduces NO<sub>x</sub> emissions by requiring tugboats to meet Tier 3 emission standards, if possible. MM AQ-1b reduces impacts from NO<sub>x</sub> emissions by requiring the purchase of NO<sub>x</sub> offset credits to offset emissions that exceed the SCAQMD's NO<sub>x</sub> construction threshold. Impacts would be less than significant with mitigation incorporated. These measures are listed below.

**MM AQ-1a: Nitrogen Oxides (NO<sub>x</sub>) Emission Reduction**

**MM AQ-1b: Nitrogen Oxides (NO<sub>x</sub>) Emission Offset Credits**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**CEQA FINDING NO. AQ-3**

Impact: **AQ-3: Result in a Cumulatively Considerable Net Increase of Any Criteria Air Pollutant for which the Project Region is in Nonattainment.**  
Project construction could result in a cumulatively considerable net increase in NO<sub>x</sub> emissions.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

The Project could result in a cumulatively considerable increase in emissions of nonattainment pollutants as a result of exceeding the SCAQMD and SDAPCD mass daily construction threshold for NO<sub>x</sub>. Impacts would be potentially significant.

Implementation of **MM AQ-1a** and **MMAQ-1b** would reduce Project-generated NO<sub>x</sub> emissions below the SCAQMD and SDAPCD NO<sub>x</sub> construction mass daily threshold. Therefore, with mitigation, the Project would not result in a cumulatively considerable impact. MM AQ-1a reduces NO<sub>x</sub> emissions by requiring tugboats to meet Tier 3 emission standards, if possible. MM AQ-1b reduces impacts from NO<sub>x</sub> emissions by requiring the purchase of NO<sub>x</sub> offset credits to offset emissions that exceed the SCAQMD's NO<sub>x</sub> construction threshold. Impacts would be less than significant with mitigation incorporated.

**MM AQ-1a: Nitrogen Oxides (NO<sub>x</sub>) Emission Reduction**

**MM AQ-1b: Nitrogen Oxides (NO<sub>x</sub>) Emission Offset Credits**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**3. CULTURAL AND PALEONTOLOGICAL RESOURCES**

**CEQA FINDING NO. CR-1**

**Impact:** **CR-1: Cause a substantial adverse change in the significance of a historical or archeological resource.** The Project could cause a substantial adverse change in the significance of a historical resource.

**Finding(s):** (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

Underwater surveys conducted by Coastal Resources Associates, which included side-scan sonar, revealed no historic resources in the Project area. While no magnetometer survey has been conducted in the area, and there is a sandy substrate, shipwrecks or other historic artifact remains could theoretically be obscured by sand. However, this is unlikely given the shallow sand in the Project area, and the failure of prior investigations to detect remains within the Project site. For similar reasons, the likelihood of unrecorded wrecks or other undocumented historical resources in the Project area is very low. However, the shipwrecks of the Agram and the Stranger's precise location, condition, and extent of possible salvage are unknown. Potential California Register of Historic Resources eligibility of these wrecks has not been and cannot be determined based on available data.

Construction of the proposed reefs would not involve excavation, so any isolated artifacts, fragmentary shipwreck remains, or archaeological remains that might be buried in the shallow sands are unlikely to be destroyed or removed; however, impacts to historic resources could be potentially significant.

Implementation of **MM CR-1a** and **MM CR-1b** would reduce this impact to a less-than-significant level by requiring the evaluation and treatment of any unanticipated discoveries, pursuant to Public Resources Code section 21084.3. **MM CR-1a** reduces the potential impact to cultural resources by requiring the Applicant to allow a tribal monitor during Project activities and requiring post-construction dives to compare that data with data generated during pre-construction surveys. **MM CR-1b** reduces the potential impact to cultural resources by requiring a plan that specifically describes how unanticipated discoveries would be identified and handled during Project activities.

**MM CR-1a: Archaeological and Tribal Monitoring****MM CR-1b: Unanticipated Cultural/Tribal Resources**

**LEVEL OF SIGNIFICANCE AFTER MITIGATION.** With the mitigation listed above, this impact is reduced to a less-than-significant level.

**CEQA FINDING NO. CR-2**

Impact: **CR-2. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.** The Project could directly or indirectly destroy a unique paleontological resource or unique geological feature.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

Despite the high paleontological potential of the strata underlying the Project area, paleontological resources are not anticipated to be impacted during construction of the Project. Direct impacts to paleontological resources occur when ground-disturbing earthwork activities cut into the geologic units within which fossils are buried and physically destroy the fossil remains. As such, only earthwork activities that would disturb potentially fossil-bearing sedimentary rocks have the potential to significantly impact paleontological resources.

No excavation-based earthwork is anticipated to occur during the reef expansion work proposed for the Project. Instead, the Project would primarily involve the placement of large boulders on the seafloor in order to create a hard substrate for kelp seeding and development. Boulder placement would not considerably disturb Capistrano Formation strata, nor would the subsequent growth of a kelp forest. In fact, placement of boulders would, in effect, cap and preserve in place any paleontological resources that may be present in the Capistrano Formation.

Implementation of **MM CR-2** would reduce the potential impact to paleontological resources to a less-than-significant level by requiring that a qualified paleontologist evaluate the nature and significance of any unanticipated paleontological discoveries during Project construction.

**MM CR-2: Unanticipated Paleontological Resources**

**LEVEL OF SIGNIFICANCE AFTER MITIGATION.** With the mitigation listed above, this impact is reduced to a less-than-significant level.

**CEQA FINDING NO. CR-3**

Impact: **CR-3. Disturb any human remains, including those that are interred outside of dedicated cemeteries.** The Project could result in disturbance of human remains.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

The Project area is completely submerged, but may have been exposed and occupied



prior to sea level changes that have historically altered the coastline. The proposed Project would be constructed in areas that are underlain by bedrock and thinly covered by sand (generally less than 3 feet) in a high-energy dynamic environment in which the thin cover of sand is readily moved by waves and currents. While the presence of human remains within the Project area is likely to be low because of these physical conditions, the possibility of discovery still exists due to its prior occupation. Impacts would be considered potentially significant. However, with the implementation of MM CR-3 to ensure appropriate treatment of unanticipated human remains, impacts to human remains would be less than significant.

Implementation of **MM CR-3** would reduce this impact to a less-than-significant level by requiring the appropriate treatment of unanticipated human remains.

**MM CR-3: Appropriate Treatment of Human Remains**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**4. CULTURAL RESOURCES - TRIBAL**

**CEQA FINDING NO. TCR-1**

Impact: **TCR-1. Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource.** The Project could cause a substantial change in the significance of a Tribal cultural resource.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

No resources listed or eligible for listing in the California Register of Historical Resources or any local register were identified by the literature searches conducted for the Project in January 2018. Cultural dive surveys performed by Dudek and the Acjachemen Nation in August 2018 also did not locate any physical Tribal cultural resources, as defined by Public Resources Code section 21074, subdivisions (a)(1) and (2), within the Project area. However, the Acjachemen Nation did identify an area of cultural sensitivity within a polygon that was previously part of the Project area, based on their confidential internal records. The Acjachemen Nation also requested that the Applicant place rock in areas of greater sand depth, to the extent feasible, to minimize the risk of damaging buried Tribal cultural resources.

Through Commission’s consultation with the Acjachemen Nation, Commission staff determined that the culturally sensitive area should be considered a “site” or “cultural landscape” that would be a Tribal cultural resource. Additionally, Commission staff determined that damage to undiscovered artifacts, village sites, and ancestral remains resulting from crushing during rock placement would be potentially significant. As a

result, the Applicant eliminated the culturally sensitive area of concern from the Project and identified additional “contingency” areas seaward of existing polygons. These “contingency” polygons would allow the Applicant to expand the reef by the originally proposed approximately 210.6 acres, while avoiding areas identified by the Acjachemen Nation as being of concern for Tribal cultural resources. In addition, through this consultation, all parties came to agreement that the size of rock being used, the depth of sand in the proposed reef locations, and the method of placement would sufficiently protect undiscovered resources from damage. While the changes to the Project reduced the likelihood of impacting Tribal cultural resources, impacts to unanticipated Tribal cultural resources remain potentially significant.

Implementation of **MM CR-1a**, **MM CR-1b**, and **MM CR-3** would reduce the level of significance to less than significant. MM CR-1a reduces the potential impact to Tribal cultural resources by requiring the Applicant to allow a Tribal monitor during Project activities and requiring post-construction dives to compare that data with data generated during pre-construction surveys. MM CR-1b reduces the potential impact to Tribal cultural resources by requiring a plan that specifically describes how unanticipated discoveries would be identified and handled during Project activities. MM CR-3 reduces the potential impact to Tribal cultural resources by requiring the appropriate treatment of unanticipated human remains. These measures are listed below.

**MM CR-1a: Archaeological and Tribal Monitoring**

**MM CR-1b: Unanticipated Cultural/Tribal Resources**

**MM CR-3: Appropriate Treatment of Human Remains**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**5. HAZARDS AND HAZARDOUS MATERIALS**

**CEQA FINDING NO. HAZ-1**

Impact: **HAZ-1. Routine Transport, Use, or Disposal of Hazardous Materials.** Construction of the expansion reef could create a hazard to the public or environment through the routine transport, use, or disposal of hazardous materials.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

Marine vessels and equipment powered by diesel fuel and lubricated by oil and other mechanical fluids would be used to expand the Wheeler North Reef, which is 0.6 miles from the shoreline. Construction-related activities would be limited to 130 days in 2019.

It is possible that marine vessels and equipment could inadvertently release hazardous materials during Project activities.

Safe operation of vessels and equipment would limit the potential for an accident that could adversely affect the environment if these hazardous substances were released. This requires licensed, trained personnel and the adoption of a regular, comprehensive maintenance program. In addition, all construction watercraft and equipment would carry supplies of fuel and other mechanical fluids only in the quantities needed for their operation.

Impacts could also occur if quarry rocks contain hazardous materials. However, all quarry rocks used for this Project would be required to conform to CDFW material specification guidelines for augmentation of artificial reefs with surplus materials. In addition, the USCG and local emergency agencies have response plans and regulatory programs in place to contain and clean up potential fuel spills. Therefore, all materials would be required to be clean and free of any contaminants, especially those that could dissolve in seawater (e.g., asphalt, paint, oil, or oil stains) and foreign materials.

Monitoring of the expansion reef would involve the use of small motor boats to travel to and from the Project site. Licensed operators would operate these vessels, and all equipment would comply with regulatory requirements. Further, overall monitoring effort for the proposed Project reef and the existing Wheeler North Reef would remain the same as the current monitoring effort for the existing Wheeler North Reef. Therefore, impacts to hazardous materials spills relating to extended monitoring activities would be less than significant.

Implementation of **MM HAZ-1a** and **MM HAZ-1b** would reduce potential impacts to a less-than-significant level by ensuring the release of hazardous materials is minimized. MM HAZ-1a reduces potential impacts related to hazardous materials releases by requiring specific protocols for monitoring and minimizing hazardous fuel use and detailed spill-response procedures. MM HAZ-1b reduces potential impacts related to hazardous materials releases by requiring that vessels prepare for inclement weather to avoid hazardous materials releases during storms.

**MM HAZ-1a: Spill Prevention and Response Plan**

**MM HAZ-1b: Prepare for Inclement Weather Condition**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**CEQA FINDING NO. HAZ-2**

Impact: **HAZ-2. Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment.** Construction of the expansion reef could create a hazard to the public or environment through the release of hazardous material into the environment during accidents or adverse weather conditions.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

The tugboats and barges associated with Project activities could accidentally discharge oils, fuel, lubricants, or other contaminants into the ocean. Other potential sources of marine spillage would include equipment such as the front-end loaders. Southern California Edison and its contractor would be required to transport, handle, and dispose of hazardous materials or chemicals in accordance with all federal, state, and local laws regulating the management and use of hazardous materials. However, accidental spillage can still happen, and accidents can pose a risk to the public and the environment. A spill from a construction vessel could occur during refueling, if the hull of a vessel is breached in the area of the tank, or if a vessel sinks. However, the collision of a Project-related vessel with other vessels in the area is unlikely since all work would be done during daylight hours.

Implementation of **MM HAZ-1a** and **MM HAZ-1b** would reduce this impact to a less-than-significant level by ensuring the release of hazardous materials during accidents or adverse weather conditions is minimized. MM HAZ-1a reduces potential impacts related to hazardous materials releases by requiring specific protocols for monitoring, minimizing hazardous fuel use, and requiring detailed spill-response procedures. MM HAZ-1b reduces potential impacts related to hazardous materials releases by requiring that vessels prepare for inclement weather to avoid hazardous materials releases during storm.

**MM HAZ-1a: Spill Prevention and Response Plan**

**MM HAZ-1b: Prepare for Inclement Weather Condition**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**6. OCEAN WATER QUALITY**

**CEQA FINDING NO. OWQ-1**

Impact: **OWQ-1. Impair Marine Water Quality.** Temporary and localized impacts to ocean water quality could occur as a result of construction related discharges, mismanagement of materials, or accidental spills.

Finding(s): (1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

The Project has the potential to negatively affect ocean water quality, which could conflict with water quality standards set forth in the applicable National Pollutant Discharge Elimination System Permit, the Regional Water Quality Control Board’s Basin Plan, or the Ocean Plan, or with the CDFW’s Material Specification Guidelines and Notification Procedure for Augmentation of Artificial Reefs with Surplus Materials. Temporary and localized impacts to ocean water quality could occur as a result of construction-related discharges, accidental spills, or mismanagement of materials.

Implementation of **MM OWQ-1** would reduce the potential impact of operational vessel discharges to a less-than-significant level by ensuring that vessel discharges comply with Commission requirements for ballast water discharges and full fouling to control and prevent the introduction of non-native species. The implementation of **MM HAZ-1a** would reduce potential impacts from spills from onboard storage and the use of fuels, greases, and oils, thereby minimizing the potential for release of hazardous materials.

**MM OWQ-1: Compliance with Vessel General Permit**

**MM HAZ-1a: Spill Prevention and Response Plan**

LEVEL OF SIGNIFICANCE AFTER MITIGATION. With the mitigation listed above, this impact is reduced to a less-than-significant level.

**7. PUBLIC SERVICES**

<b>CEQA FINDING NO. PUB-1</b>	
Impact:	<b>PUB-1. Need for Emergency Response Services during Construction of the Artificial Reef.</b> Construction and monitoring of the expansion reef could have a short-term impact on emergency response services.
Finding(s):	(1) Changes or alterations have been required in, or incorporated into, the project that mitigate or avoid the significant environmental effect as identified in the SEIR.

**FACTS SUPPORTING THE FINDING(S)**

The need for offshore emergency response services could occur during the construction of the expansion reef. For example, tugboats and barges could be involved in an accident or have a fire on board. The Project site would be located approximately 0.6 miles offshore, within the Orange County Harbor Patrol’s jurisdiction. However, tugboats and barges traveling to the Project site could potentially go more than 3 nautical miles offshore while in transit, where they would require USCG assistance during an emergency.

Construction of the expansion reef would involve seven flat-deck supply barges, one derrick barge with attached derrick crane, six anchorages for the derrick barge, two front-end loaders, and two tugboat tenders. The delivery of 175,000 tons of quarry rock for 23 of the new polygons would require approximately 44 barge round trips. The

supply barges at the site would be exchanged every 2 to 3 days. Construction activities would be marked with buoys and other signals, according to permit requirements outlined by the U.S. Army Corps of Engineers and in compliance with USCG regulations.

Project construction is anticipated to occur between May 1 and October 1, 2019. This construction timing would allow the Applicant to benefit from the calm weather conditions that are typical at that time of year in Southern California, reducing the chances of weather-related emergencies.

Tugboat/barge operators are licensed and must comply with USCG regulations. Current USCG emergency services would be adequate for any problems that might occur; however, impacts to public services could be potentially significant.

Implementation of **MM PUB-1** would reduce this potential impact to a less-than-significant level by ensuring the contractor notifies the Orange County Harbor Patrol Marine Operations Bureau prior to the start of construction, thereby minimizing impacts to emergency services.

#### **MM PUB-1. Notification of Harbor Patrol**

**LEVEL OF SIGNIFICANCE AFTER MITIGATION.** With the mitigation listed above, this impact is reduced to a less-than-significant level.